

are independently packetized is not disclosed or suggested by the *Yang* reference. Instead the *Yang* reference merely discloses a dynamic bandwidth allocation of packetized video sources or signals in which the bandwidth (frame data in data bits/second) of a video source or signal is constantly changing from frame-to-frame based on bandwidth of other video sources or signals. While the ability to transmit or transfer video sources or signals as heterogeneous video streams at their native rates may yield a perceptually superior video presentation, the rate conversion process may degrade the video source or signal from its native format.

The *Yang* reference merely teaches dynamically allocating bandwidth available for the live video signals, on a frame-by-frame basis, depending upon the complexity of each live video signal. Because the bandwidth (frame data in data bits/second) for the live video signals is determined by subtracting the pre-compressed video bandwidth from the total video bandwidth available for the broadcast system, the bandwidth for the current video signal or the frame rate for each of live video streams is different. However, the bandwidth or the frame rate varies from frame-to-frame basis, depending upon the corresponding compression factor, which specifies the rate of compression of the live video signal by a corresponding encoder. See, column 5, lines 8-18 and column 4, lines 33-67. Since, in the *Yang* reference, the bandwidth for the live video signals is determined by subtracting the decompressed video bandwidth from the total video bandwidth available for the broadcast system, the bandwidth for a live video signal cannot be taken as a native bandwidth or a native frame rate, let alone transmission of a video source or signal in a native information format.

The Examiner contends that in the *Yang* reference each video signal is packetized independently and depacketized and reassembled in the original video format at the receiver for displaying. In *Yang*, no indication is provided as to how the packetized streams are handled in the receiver. Moreover, there is no teaching that they are received at different frame rates, packetized, and enabled to be depacketized at the original frame rate. Specifically, the *Yang* reference teaches a combination of processing elements including the controller 42 and video memory 38 in a video generator 12 to mix disparate video sources into a single common area of memory, the video memory 38, often called a frame buffer in the context of a display device. Generally frame buffers require use of one or more standard information formats.

On the contrary, a conversion or adaptation of one of the heterogeneous video streams into an information format and a frame rate of another heterogeneous video stream is not required for the transmission in the amended claim 11. The system of claim 11 independently packetizes at least two heterogeneous video streams for transmission in native or original information formats and frame rates. For example, a first heterogeneous video stream at 24 bits per pixel and 60 frames per

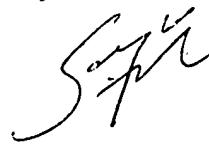
second may not require a format or frame rate conversion or adaptation based on a second heterogeneous video stream at 16 bits per pixel and 25 frames per second. Because the burden of converting all video sources, i.e., the heterogeneous video streams into a single common format may be removed from the system of claim 11 and the bandwidth of the information being driven to a display device may potentially be reduced, the requirements on the memory and processing elements in the system claim 11 may be eased, yielding a system with additional performance margin. Accordingly, the *Yang* reference fails to disclose or suggest a packetization device that independently packetizes at least two heterogeneous video streams for transmission thereof in their native information formats and native frame rates.

For the reasons given above, claim 11 and claims dependent therefrom are distinct and patentably distinguishable over the *Yang* reference and are in condition for allowance. Arguments pertaining to the dependent claims 12 and 13 by the Examiner have been noted. However, to the extent that characterizations of the cited references or Applicants' claimed subject matter are not specifically addressed as amended, it is to be understood that the Applicants do not acquiesce to such characterizations. Therefore, reconsideration of the §102 rejection of claims 11, 12 and 13 is respectfully requested.

Attached is an Appendix, which shows the changes to the claims. The Examiner is encouraged to review those changes to ensure that the claims, as set forth herein, correspond accurately to the claims in the Appendix and no inadvertent errors have occurred.

In view of these remarks, the application is now in condition for allowance and the Examiner's prompt action in accordance therewith is respectfully requested.

Respectfully submitted,



Date:

09/24/02

---

Sanjeev K. Singh under 37 C.F.R. § 10.9(b)  
Registration No. 28,994  
TROP, PRUNER & HU, P.C.  
8554 Katy Freeway, Suite 100  
Houston, Texas 77024-1805  
(713) 468-8880 [Phone]/ (713) 468-8883 [Fax ]

## APPENDIX

1 Please amend claim 11 as follows:

2 11. (Twice Amended) A system comprising:  
3       a processor;  
4       a storage coupled to said processor;  
5       a video controller coupled to said processor; and  
6       a packetization device coupled to said video controller to independently packetize  
7 at least two heterogeneous video streams for transmission thereof in respective native  
8 information formats and associated native frame rates.

*CC-1*  
SEP 3 0 2002  
PATENT & TRADEMARK OFFICE

**BEFORE THE OFFICE OF ENROLLMENT AND DISCIPLINE  
UNITED STATE PATENT AND TRADEMARK OFFICE**

**LIMITED RECOGNITION UNDER 37 CFR § 10.9(b)**

Dr. Sanjeev Kumar Singh is hereby given limited recognition under 37 CFR §10.9(b) as an employee of Trop Pruner & Hu, P.C., to prepare and prosecute patent applications for clients of Trop Pruner & Hu, P.C. in which a member of Trop Pruner & Hu, P.C., is the attorney of record. This limited recognition shall expire on the date appearing below, or when whichever of the following events first occurs prior to the date appearing below: (i) Dr. Sanjeev Kumar Singh ceases to lawfully reside in the United States, (ii) Dr. Sanjeev Kumar Singh's employment with Trop Pruner & Hu, P.C. ceases or is terminated, or (iii) Dr. Sanjeev Kumar Singh ceases to remain or reside in the United States on an H-1B visa.

This document constitutes proof of such recognition. The original of this document is on file in the Office of Enrollment and Discipline of the U.S. Patent and Trademark Office.

**Expires: April 17, 2003**



\_\_\_\_\_  
Harry I. Moatz  
Director of Enrollment and Discipline